

Application No.: 09/865947

Case No.: 55758US002

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently amended) An abrasive article comprising:
a backing plate having a first major surface and a second major surface opposite the first major surface, wherein the backing plate is generally circular,
wherein the backing plate includes a central aperture extending therethrough, and wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material, and wherein the article is a flap disc;
an abrasive layer secured to the first major surface of the backing plate; and
a fastener press fitted to the backing plate so as to define the central aperture.

Claims 2-13 (canceled).

14. (Currently amended) An abrasive article comprising:
a backing plate having a first major surface and a second major surface opposite the first major surface, wherein the backing plate is generally circular,
wherein the backing plate includes a central aperture extending therethrough, and wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material;
an abrasive layer secured to the first major surface of the backing plate; and
a fastener press fitted to the backing plate so as to define the central aperture The
~~abrasive article of claims 2,~~ wherein the fastener is shaped to form a Tinnerman nut.
15. (Currently amended) An abrasive article comprising:
a backing plate having a first major surface and a second major surface opposite the first major surface, wherein the backing plate is generally circular,

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wherein the backing plate includes a central aperture extending therethrough, and wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material;

an abrasive layer secured to the first major surface of the backing plate; and

a fastener press fitted to the backing plate so as to define the central aperture ~~The~~

~~abrasive article of claim 2,~~ wherein the fastener is shaped to form a Grit-lock nut.

16. (Previously presented) A method of making an abrasive article comprising:

applying adhesive to a backing plate having a central aperture, wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material;

disposing abrasive material onto the adhesive, wherein the abrasive material is selected from a coated, non-woven, or bonded abrasive;

disposing the backing plate onto a jig;

disposing a fastener having tines so as to be concentric with the central aperture; and

pushing the tines through the backing plate and folding the tines so as to fixably attach the fastener to the backing plate.

17. (Currently amended) A method of abrading a surface, said method comprising: providing an abrasive article comprising:

a backing plate having a first major surface and a second, major surface opposite the first major surface, wherein the backing plate includes a central aperture extending therethrough, and wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material;

an abrasive layer secured to the first major surface of the backing plate, wherein the abrasive layer comprises a substrate and a plurality of abrasive particles secured to the substrate by a binder; and

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a fastener press fitted to the backing plate so as to be concentric with the central aperture, wherein the fastener includes a plurality of penetrating members and further wherein each penetrating member pierces the backing plate from the grinding surface side;
attaching the abrasive article to a shaft through the central aperture of the abrasive article;
contacting at least a portion of the abrasive layer with a surface of a workpiece;
and
moving the abrasive article relative to the surface of the workpiece such that at least a portion of the workpiece is abraded by at least a portion of the abrasive layer.

18. (Original) The method according to claim 17 wherein the backing plate is generally circular.

Claim 19 (canceled)

20. (Previously presented) The method of claim 16 wherein the abrasive material further comprises a substrate and a plurality of abrasive particles secured to the substrate by a binder.

21. (Currently amended) The method of claim 17, further comprising:
providing a back up pad mounted to a tool shaft;
~~wherein the abrasive layer comprises a substrate and a plurality of abrasive particles secured to the substrate by a binder;~~ and
wherein the step of attaching the abrasive article to a shaft includes attaching the abrasive article to the shaft adjacent the back up pad.

22. (New) An abrasive article comprising:

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a backing plate having a first major surface and a second major surface opposite the first major surface, wherein the backing plate includes a central aperture extending therethrough, and wherein the backing plate comprises a thermoplastic binder material and fibrous reinforcing material;
an abrasive layer secured to the first major surface of the backing plate, wherein the abrasive layer comprises a substrate and a plurality of abrasive particles secured to the substrate by a binder; and
a fastener press fitted to the backing plate so as to be concentric with the central aperture, wherein the fastener includes a plurality of penetrating members and further wherein each penetrating member pierces the backing plate from the grinding surface side.

23. (New) The abrasive article of claim 22, wherein the backing plate is generally circular.

24. (New) The abrasive article of claim 23, wherein the thermoplastic binder material includes polyamide.

25. (New) The abrasive article of claim 23, wherein the thermoplastic binder material includes polyester.

26. (New) The abrasive article of claim 23, wherein the fibrous reinforcing material comprises glass fibers.

27. (New) The abrasive article of claim 23, wherein backing plate is further comprised of glass-filled nylon.

28. (New) The abrasive article of claim 23, wherein the backing plate has a thickness of from about 0.51 mm to about 1.78 mm.

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29. (New) The abrasive article of claim 23, wherein the backing plate has a thickness of from about 1.02 mm to about 1.40 mm.

30. (New) The abrasive article of claim 23, wherein the backing plate has a thickness of about 1.27 mm.

31. (New) The abrasive article of claim 23, further comprising adhesive disposed between the abrasive layer and the first major surface of the backing plate.

32. (New) The abrasive article of claim 23, wherein the fastener is a quick-change type.

33. (New) The abrasive article of claim 23, wherein the abrasive layer is made of a non-woven abrasive forming a raised annulus.

34. (New) The method of claim 17, wherein the abrasive layer is made of an abrasive material selected from a coated, non-woven, or bonded abrasive.